

USA COMMENTS

TERRESTRIAL ANIMAL HEALTH STANDARDS COMMISSION REPORT

SEPTEMBER 2009

DRAFT CHAPTER X.X.X.

**ANIMAL WELFARE AND BROILER CHICKEN  
PRODUCTION**

Article X.X.1.

**Definitions**

Broiler

Birds of the species *Gallus gallus* kept primarily for commercial meat production.

Cage housing system

In a cage housing system the caretaker accesses the birds from outside the enclosure in which the birds are kept.

Deep litter housing system

In a deep litter housing system the birds are kept on floors that are ~~is~~ covered with bedding material.

**Rationale:** Syntax correction.

Slatted floor housing system

In a slatted floor housing system the birds are kept on raised floors, on which droppings don't accumulate but fall through.

Article X.X.2.

**Scope**

These recommendations cover the production period from arrival of the chick on the farm to harvesting the broiler in commercial production systems. Backyard flocks are not included even if the animals or products are traded locally.

Note 1: Welfare of the broiler during transport to the abattoir is covered in Chapters 7.2, 7.3 and 7.4.

Note 2: Recommendations on the management of the breeding flock and hatchery and for the period between hatching and arrival on the farm to be developed.

## Article X.X.3.

**Commercial broiler production systems**

Commercial broiler production systems include:

Intensive systems

Birds are completely confined in a roofed structure, with or without environmental control and usually at a higher stocking density than in other production systems. Birds may be kept in cages (e.g. wire or plastic floor or deep litter floor) or on deep litter, slatted floor or a combination

Semi intensive systems

Birds are confined in a roofed structure but provided with an access to a restricted outdoor area. They may be kept in cages (e.g. wire or plastic floor or deep litter floor) or on deep litter, a slatted floor or a combination of the two.

Extensive systems

Birds ~~are not confined~~ kept outside and may have access to a roofed structure and are usually kept at a lower stocking density than in intensive or semi intensive systems.

**Rationale:** The revised text more accurately describes current extensive systems for broiler production

## Article X.X.4.

**Criteria or measurables for the welfare of broilers**

The following outcome (animal) based measurables can be useful indicators of welfare

1. Mortality rate (dead, culled)
2. Gait
3. Contact dermatitis
4. Feather condition
5. Disease incidence / morbidity rates\
  - ~~6.~~ a) Ascites/sudden death syndrome (SDS)
  - ~~7.~~ b) Respiratory disease
  - ~~8.~~ c) Parasitic diseases
- ~~9.~~ 6. Carcass and meat quality
- ~~10.~~ 7. Behaviour: normal and abnormal (related to fear, thermal distress, illness)
  - a) Human avoidance behaviour
  - b) Spatial distribution
  - c) Panting and wing spreading
  - d) Dust bathing

## 7. Continued

- e) Feather picking
- f) Cannibalism
- g) Feeding and drinking

~~11.~~ 8. Water consumption

~~12.~~ 9. Growth rate

~~13.~~ 10. Feed conversion

~~14.~~ 11. Injury rate

~~15.~~ 12. Eye condition

**Rationale:** Topics 5a through 5c of the suggested revised text are types of diseases, and as such, it may be clearer if they are grouped under the primary heading of ‘Disease incidence/morbidity rates.’ We have arranged them in this suggested revised text in a manner consistent with the approach taken with the behavioral examples provided. It is not clear as to the intent of original item 15 (new item 12), ‘eye condition.’ If this is intended as a disease assessment, then it may be more appropriately grouped with other diseases under number 5. With respect to behavior, we believe recognition of normal, as well as abnormal, behaviors is important to a complete welfare assessment.

Article X.X.5.

## Recommendations

### 5.1. Biosecurity and animal health

#### 5.1.1 Biosecurity and Disease Prevention

Biosecurity means a set of measures designed to protect a flock from the entry of infectious agents.

Biosecurity programmes should be implemented, commensurate with the risk of disease and in accordance with relevant recommendations found in *Terrestrial Code* chapters on OIE listed diseases.

These programmes should address the control of the major routes for disease and pathogen transmission:

- ~~Poultry~~
- ~~Other animals~~
- ~~People~~
- ~~Equipment~~
- ~~Vehicles~~

- Direct transmission from other animals (e.g., other poultry, humans [zoonotic diseases], domestic species [livestock, pets], wildlife [including rodents])
- Fomites, such as equipment that is designed to be disposable, but is instead re-used (e.g., needles), and facilities, equipment and vehicles that are not cleaned and/or sanitized.
- Vectors (e.g., arthropods)
- Aerosols~~Air~~
- Water supply
- Feed

Outcome based measurables of biosecurity include: disease incidence; and mortality; ~~and morbidity rates.~~ growth rate and feed conversion.

**Rationale:** Editorial changes are suggested to improve organization and appropriately combine similar items under more general categories with descriptors. We also suggest vectors are an appropriate contributor to disease transmission. Our experts state growth rate and feed conversion are not generally considered to be measures of biosecurity.

#### 5.1.2. Animal Health Management / Preventive Medicine / Veterinary Treatment

Animal health management means a system designed to ~~prevent diseases occurring in a flock and provide treatment if disease occurs in order to~~ optimise the physical and behavioural health and welfare of the flock. It includes prevention, treatment and control of diseases and conditions affecting the flock.

**Rationale:** Our experts suggest there needs to be emphasis on behavioral as well as physical health to ensure animal welfare is protected.

Those responsible for the care of birds should be aware of the signs of ill-health or distress, such as reduced food and water intake, reduced growth, ~~changes in~~ deviations from normal behaviour, abnormal ~~conditions~~ appearances of ~~their~~ feathers or droppings, or other physical features.

**Rationale:** Our experts suggest a need to emphasize normal, as well as abnormal, behaviour. Other suggestions are editorial.

If persons in charge are not able to identify the causes of ill-health or distress or to correct these or suspect the presence of a listed reportable disease, they should seek advice from those having training and experience, such as poultry veterinarians or other qualified advisers. Veterinary treatments should be prescribed by a qualified veterinarian.

There should be an effective programme for the prevention and treatment of diseases consistent with the programs established by a qualified veterinarian and/or the Veterinary Services as appropriate.

**Rationale:** The additional text is recommended to acknowledge that in many instances health management programs are established by private and corporate veterinarians, rather than by government veterinary services.

Vaccinations and other treatments administered to chickens should be undertaken with consideration of the welfare of the birds by people skilled in the procedures.

Culling of sick or injured birds should be done in a humane manner as soon as possible. Similarly, killing birds as may be required for diagnostic purposes should be done in a humane manner.

Outcome based measurables: disease incidence, morbidity and mortality rates, normal and abnormal behaviours, and poor performance.

**Rationale and clarification:** Our experts suggest that morbidity, in addition to mortality, is an important measure of the success of an animal health program. Behavioral assessment should also be part of the health management evaluation. We request the OIE provide clarification as to the parameters included in 'performance,' because 'performance' was not on the list of criteria identified for welfare assessment earlier in this document.

## 5.2. Environment

### 5.2.1. Thermal environment

In intensive and semi intensive production systems every attempt should be made to keep thermal and relative humidity conditions within the recommended range.

A table of recommended ranges will be included

In extensive production systems appropriate management to mitigate the effects of extreme thermal conditions should be implemented.

Outcome based measurables: ~~rates of~~ mortality, ~~rate, of~~ evidence of contact dermatitis, water consumption, feed consumption, growth rate, feed conversion and normal and abnormal (e.g., panting, lethargy) behaviours.

**Rationale:** Humidity is an important contributor to thermal environments. Again, our experts recommend that both normal and abnormal behaviors are an important part of the welfare assessment. The remainder of suggested revisions are editorial.

### 5.2.2. Lighting

There should be an adequate period of continuous darkness during each 24 hour period to allow the birds to rest.

The light intensity during the light period should be sufficient and homogeneously distributed to allow the chicks to find feed and water in the first few days after they are placed in the house, to stimulate bird activity, and to allow inspection of the birds.

Birds should be gradually adjusted to lighting changes.

Outcome based measurables: gait (e.g. lameness), feed and water consumption, normal and abnormal behaviour and injuries rate.

**Rationale:** 'Gait' and 'injury rate' are identified in the previously provided list of assessment criteria. Again, our experts suggest that evidence of normal behavior is important in addition to assessing abnormal behavior.

### 5.2.3. Air quality

Adequate ventilation is required at all times to provide fresh air and is one means of controlling temperature and humidity.

Ammonia concentration should not routinely exceed 25 ppm at bird level.

Dust levels should be kept to a minimum. ~~Methods to achieve this for doing that can~~ include: maintaining appropriate ventilation and optimal relative humidity levels (50% - 80%).

Outcome based measurables: incidence of respiratory diseases, normal and abnormal (e.g., panting, huddling) behaviour, condition of the eyes, growth rate, feed conversion, incidence of contact dermatitis, spatial distribution of the birds.

**Rationale:** We recommend that both abnormal and normal behaviours should be assessed. The remainder of our suggestions are editorial.

### 5.2.4. Acoustic environment

Exposure of birds to sudden or loud noises should be minimized where possible to prevent stress and fear reactions (e.g. piling).

Note: Location of farms should, where possible, take into account existing environmental conditions.

Outcome based measurables: daily mortality rate, growth rate, food conversion, injuries, rates fearfulness and normal and abnormal (e.g., fearfulness) behaviour.

**Rationale:** We recommend that both abnormal and normal behaviours should be assessed. The remainder of our suggestions are editorial.

### 5.2.5. Nutrition

Birds should be fed a diet containing adequate nutrients to meet their requirements for good health.

Feed and water should be palatable and free from contaminants potentially hazardous to bird health.

~~Cleaning t~~The water system should be cleaned ~~done~~ regularly.

Birds must be provided with adequate ~~accessibility~~ to feed on a daily basis. Water should be available continuously.

**Rationale:** Editorial suggestions to clarify the intent of the guideline

Special provisions should be made to enable young chicks to access feed and water.

Outcome based measurables: feed and water consumption, growth rate, food conversion, normal and abnormal behaviour, gait (e.g., lameness, disease incidence, mortality, morbidity, and carcass and meat quality).

**Rationale:** We recommend that both abnormal and normal behaviours should be assessed. The remainder of our suggestions are editorial to improve consistency with the list of previously provided criteria.

#### 5.2.6. Flooring, bedding, resting surfaces (litter quality)

The floor of a poultry building should be easy to clean and where practical easy to disinfect.

**Rationale:** Poultry buildings often have dirt floors. Disinfecting floors may not be practical, therefore, the text 'where practical' should be added to clarify the intent of the guideline.

If fresh bedding or recycled litter is used ~~reecyled~~ it should be managed appropriately to minimize any detrimental effects on welfare and health. Litter should be replaced when required to control a disease outbreak in the next flock.

**Rationale:** The proposed revision allows for currently accepted industry practices such as top dress old litter with new bedding material and the use of recycled litter.

Day old chicks should be housed on a floor suitable for their size.

If housed on litter based systems, before the one day old chicks enter the building the floor should have a bedding of uncontaminated new substrate (e.g. wood shavings, straw, shredded paper) of sufficient depth to elicit normal behaviour and to protect them from the floor.

Litter quality is partly related to the type of substrate used and partly to different management practices. The type of substrate should be chosen carefully. Litter should be maintained so that it is friable and not dusty, caked or wet.

The floors of cages and slatted systems should be designed, constructed and maintained to adequately support the birds and prevent injuries and to ensure that manure can fall away or be adequately removed.

Outcome based measurables: incidence of contact dermatitis, and breast blisters, feather condition, incidence of disease (e.g., ascites, respiratory distress), gait (e.g., lameness), normal and abnormal behaviour, eye condition, ~~respiratory disease~~ and growth rate.

**Rationale:** Suggested changes indicate what happens with manure in slatted systems and organize the list of measurables to correspond how they are presented in the section of assessment criteria.

#### 5.2.7. Social environment

Management methods (e.g. reducing light intensity, providing foraging materials, nutritional modifications, reducing stocking density, and genetic selection) should be implemented to reduce feather pecking and cannibalism in growing systems where these behaviours are a potential problem.

If these management strategies fail, therapeutic beak trimming should be considered.

Outcome based measurables: injury~~ies~~ rate, normal and abnormal behaviour, feather condition, mortality, carcass - and meat quality.

**Rationale:** Our experts suggest genetic selection is an additional approach to management of feather pecking and cannibalism that should be included in the guideline. Again, we recommend that both abnormal and normal behaviours should be assessed.

#### 5.2.8. Stocking density

Broiler chickens should be housed in an acceptable stocking density.

To determine the appropriate stocking density, the following factors should be taken into account: ambient conditions, housing systems, production systems, litter quality, biosecurity strategy, selection of genetic stocks, and market age of birds ~~should be taken into account so that~~ the floor space provided ~~will~~ must ensure good welfare (e.g., comfort, ability to ~~express~~ make normal postural adjustments and to access to feed and water).

Outcome based measurables: rates of injuries, rates of contact dermatitis, rates of mortality, normal and abnormal behaviour, growth rate, feed conversion, ~~plumage~~ feather condition and carcass quality.

**Rationale:** Editorial revisions to clarify the intent of the guideline and make measurables consistent with previously provided criteria.

#### 5.2.9. Outdoor areas

Management of outdoor areas is important in extensive and semi-intensive production systems.

Land (pasture) management measures should be taken to reduce the risk of birds being infected by parasites. ~~transmitted~~. This might include limiting the stocking density and / or using several pieces of land consecutively (rotation).

**Rationale:** Editorial recommendation to clarify the intent of the guideline.

Outdoor areas should be managed appropriately to minimize swampy conditions and mud.

Outdoor areas should be managed appropriately to ensure that they are free of poisonous plants and other contaminants.

Particularly in extensive systems where birds do not have access to an indoor area, protection from adverse climatic conditions (e.g. heat, cold, rain) should be provided

Outcome based measurables: incidence of parasitic infestations and diseases, growth rate, feather condition and morbidity and mortality rates.

**Rationale:** Our experts suggest morbidity rate is another important assessment measure.

#### 5.2.10. Protection from predators

Broilers should be protected from predators.

Outcome based measurables: mortality and injuries.

### 5.3. Management

#### 5.3.1. Genetic selection

Welfare and health considerations, in addition to productivity, should be taken into account when choosing a strain for a particular location or production system.

Outcome based measurables: [gait](#); (e.g., lameness), incidence of disease (e.g., ascites, sudden death syndrome [SDS]), mortality [rate](#), feed conversion and growth rate.

**Rationale:** Editorial revisions to make consistent with the list of assessment criteria.

#### 5.3.2. Painful interventions

Commercial broiler chickens are not typically subjected to management practices that cause pain. However, prophylactic beak-trimming may be required in case of outbreaks of feather pecking and cannibalism, as described earlier. Guidelines for beak-trimming to minimize negative impacts on bird health and performance are presented in Glatz and Miao (2005). Only the minimum amount of beak needed to prevent beak re-growth before market age (ideally, only the hook at the end of the upper beak) should be removed, and the trim should be performed so as to prevent subsequent distortion or deformation of the beak. The beak should be cauterized after cutting to minimise bleeding. Trimming at an early age (before 10 days of age; Hester and Shea-Moore, 2003) is preferred to prevent long-term pain, but since feather pecking and cannibalism develop when the birds are somewhat older prophylactic trimming will likely occur after this time.

There is a small specialty market for capons (castrated male broilers). Because the testes of male chickens are located inside the abdominal cavity, this procedure is a major surgery (Jacob and Mather, 2000) that should be performed only by skilled individuals and with measures to minimize pain, injury, ~~and~~ bleeding ~~and contamination that could lead to postoperative infection.~~ ~~The procedure is described in Jacob and Mather (2000).~~

**Rationale:** It is recommended that efforts should be undertaken to prevent postoperative complications.

Painful interventions (e.g. beak trimming, toe trimming, dubbing) should not be routinely practiced on broilers.

If therapeutic beak trimming is required, it should be carried out by trained and skilled personnel and care should be taken to remove the minimum amount of beak necessary using a method which minimizes pain and controls bleeding.

Surgical caponisation should not be performed without adequate pain and infection control methods and should only be performed by trained and skilled personnel under veterinary supervision.

#### 5.3.3. Handling and inspection

Broilers should be inspected every day. This inspection should have three main objectives: to pick up dead birds; to identify sick or injured birds to treat or cull them, and to detect and correct any welfare or health problem in the flock (e.g. related to the supply of feed and water, thermal conditions, ventilation, litter quality).

Inspection should be done in such a way that birds are not unnecessarily disturbed, for example personnel should move quietly and slowly through the flock.

When birds are handled they should not be injured or unnecessarily frightened or stressed.

Birds which have an incurable sickness, significant deformity or injury should be removed from the flock and humanely killed as soon as possible.

Cervical dislocation is an acceptable method for killing small numbers of birds if carried out competently. For a complete description of killing methods see Chapter 7.6.17. of the *Code*.

Outcome based measurables: fear, performance, injuries, mortality and morbidity.

#### **5.3.4. Personnel training**

All people responsible for the broilers should be competent according to their responsibilities and should have sufficient knowledge of broiler behaviour, biosecurity, general signs of disease, and indicators of poor animal welfare such as stress, pain and fatigue, and their alleviation.

#### **5.3.5. Emergency Plans**

Poultry producers should have emergency plans to minimize and mitigate the consequences of: natural disasters, disease outbreaks and the failure of mechanical equipment. Planning may include the provision of fail safe alarm devices to detect malfunctions, back up generators, access to maintenance providers, alternative heating arrangements, ability to store water on farm, access to water cartage services, adequate on farm storage of feed and alternative feed supply and emergency ventilation.

An emergency plan for animal health should be developed consistent with national programs established or recommended by Veterinary Services as appropriate.

#### **5.3.6. Location, construction and equipment of farms**

The location of poultry farms should be chosen to be safe from the effects of fires and floods and other natural disasters to the extent practical. In addition farms should be sited to avoid or minimize biosecurity risks, exposure of birds to chemical and physical contaminants, noise and adverse climatic conditions.

Housing and equipment to which poultry have access should be designed and maintained to avoid injury or pain to the birds.

Buildings should be constructed and electrical and fuel installations should be fitted to minimise the risk of fire and other hazards.

Poultry producers should have a maintenance programme in place for all equipment that, in case of failure, can jeopardize broiler welfare.

### 5.3.7. On farm ~~harvesting~~ slaughter

Feed should be removed at a suitable time prior to catching.

Water should be available for as long as possible.

Injured and sick birds should be culled or separated prior to ~~harvesting~~ slaughter.

**Rationale:** We recommend using the term ‘slaughter’ rather than ‘harvesting’ to be consistent with the use in other areas within the *Code*.

Catching should be done by skilled workers and every attempt should be made to minimize stress and fear reactions, and injury.

The broilers should not be picked up by their neck or wings.

The broilers should be put in the transport container carefully.

Mechanical catchers should be designed, operated and maintained to minimize injury, stress and fear to the birds. [A contingency](#) plan is advisable in case of mechanical failure.

**Rationale:** Recommended editorial change.

Catching should preferably be carried out under dim or blue light to calm the birds.

Catching should be scheduled to minimize the time to slaughter as well as climatic stress during catching, transport and holding.

Stocking density in transport containers should suit climatic conditions and maintain comfort.

Containers should be clean and disinfected and designed and maintained to avoid injury to the birds.

Outcome based measurables: incidence of injuries, mortality rate and carcass quality.

### 5.3.8. Humane killing

Injured and sick birds should be killed humanely.

Cervical dislocation is considered a humane method for killing small numbers of birds.

For a description of other methods for the humane killing of broilers see Chapter 7.6.5 of the *Code*.